

CLAIMS

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5 1. A combined medication for increasing the capacitation of mammalian sperm, comprising two or more agents each of which is selected from the groups consisting of (1) calcitonin, (2) angiotensin II, and (3) a modulator of adenosine receptor activity.

10 2. A combined medication according to claim 1, in which the modulator of adenosine receptor activity is fertilization promoting peptide (FPP) or adenosine or a specific adenosine receptor agonist.

15 3. A combined medication according to claim 1, in which the modulator of adenosine receptor activity is FPP, adenosine, or a mixture of FPP and adenosine (FPP/adenosine).

4. A combined medication according to claim 1, comprising the two agents consisting of calcitonin and FPP.

20 5. A combined medication according to claim 1, comprising calcitonin, FPP (or FPP/adenosine), and angiotensin II.

25 6. A composition for the treatment of infertility in humans, comprising a pharmaceutically acceptable carrier containing two or more of the agents specified in any of claims 1 to 5.

7. A composition for the treatment of infertility in humans, comprising a pharmaceutically acceptable carrier containing two or all of the hormones FPP (or FPP/adenosine), calcitonin and angiotensin II for topical application.

30 8. A composition according to claim 7, being in the form of a cream or jelly or pessary.

9. A composition according to claim 7 or 8, containing from 100 nM to 100 μ M FPP or from 10 μ M to 10 mM adenosine, from 5 ng/ml to 5 μ g/ml salmon calcitonin or from 200 ng/ml to 200 μ g/ml of human calcitonin and from 1 nM to 1 μ M angiotensin II.

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10. A sperm preparation for use in the treatment of infertility containing two or more agents each of which is selected from the groups consisting of (1) calcitonin, (2) angiotensin II, and (3) a modulator of adenosine receptor activity.

10 11. A sperm preparation according to claim 10, containing from 25 to 500 nM FPP or from 0.5 to 100 μ M adenosine.

12. A sperm preparation according to claim 10 or 11, containing from 2 to 150 ng/ml salmon calcitonin or from 20 to 1000 ng/ml g/ml human calcitonin.

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13. A sperm preparation according to claim 10, 11, or 12, containing from 0.5 to 100 nM angiotensin II.

14. A sperm preparation for use in the treatment of infertility containing two or more of the agents specified in claims 10 to 13, in the concentrations specified therein.

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15. A sperm preparation according to claim 10, containing from 12.5 to 500 nM FPP or from 0.5 μ M to 100 μ M adenosine.

25 16. A sperm preparation according to claim 10 or 15, containing from 0.5 to 150 ng/ml salmon calcitonin or from 2 ng/ml to 1000 ng/ml of human calcitonin.

17. A sperm preparation according to claim 10, 15, or 16, containing from 0.1 to 100 nM angiotensin II.

18. A sperm preparation for use in the treatment of infertility containing two or more of the agents specified in claims 15 to 17 in the concentrations specified therein.
19. A sperm preparation according to any of claims 10 to 18, for human clinical use.
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20. A sperm preparation according to claim 10, for agricultural use.
21. A sperm preparation according to claim 20, containing concentrations of added FPP from 12.5 nM to 1 μ M (preferably 50 nM to 1 μ M) or adenosine from 0.5 to 100 μ M, salmon calcitonin from 0.5 to 400 ng/ml (preferably 2 to 400 ng/ml) or porcine calcitonin from 2 to 1000 ng/ml (preferably 20 to 1000 ng/ml), and angiotensin II from 0.1 to 100 nM (preferably 0.5 to 100 nM).
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22. A frozen sperm preparation according to any of claims 10 to 21.
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23. A thawed sperm preparation containing agents as specified in any of claims 10 to 21 added after thawing and prior to insemination.
24. The use of combined medication, composition, or sperm preparation according to 20 any of the preceding claims, to promote fertilizing ability in mammalian sperm.
25. The use according to claim 24, in which the hormones are administered simultaneously, sequentially, or separately.
26. The use of human, porcine or salmon calcitonin, in conjunction with FPP/adenosine and human angiotensin II, to promote fertilizing ability in mammalian sperm.
27. A method of promoting fertility in mammals which comprises administering 30 two or more of the agents specified in any of claims 1 to 5 administered simultaneously, sequentially, or separately.

28. A method of promoting fertility in mammals which comprises administering two or three of the hormones FPP/adenosine, calcitonin and angiotensin II to a mammal in need thereof.

5 29. A method of improving in vitro fertilization or artificial insemination which comprises adding two or more of the hormones calcitonin, FPP (or FPP/adenosine), and angiotensin II to sperm prior to use.

10 30. The use of angiotensin II in the preparation of a medicament for stimulating the capacitation of mammalian sperm.

15 31. A method of stimulating the capacitation of sperm which comprises adding angiotensin II to a sperm preparation or administering angiotensin II to a patient in need thereof or to the female reproductive tract.

32. A composition for stimulating the capacitation of sperm comprising angiotensin II.

20 33. A composition according to claim 32, containing from 1nM to 1 μ M angiotensin II, or being a sperm preparation containing from 0.5 to 100 nM angiotensin II.

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